

2003
MISSOURI
EMERGENCY SERVICE VEHICLE
CRASHES

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FOREWORD

(Presented by Missouri Division of Highway Safety)

ACKNOWLEDGEMENTS

The Missouri Department of Transportation, Highway Safety Division requested publication of this report to determine the magnitude, severity, and characteristics of traffic crashes involving emergency service vehicles in the State.

The primary source of information in this report was traffic crash data obtained from the Statewide Traffic Accident Records System (STARS). The Missouri State Highway Patrol, Traffic Division, is responsible for coordinating the STARS program as well as encoding all traffic crash data being reported.

Special recognition is given to all Missouri law enforcement agencies and officers who provide traffic crash investigation services on Missouri roadways and report their findings to STARS. Because of their efforts, traffic safety authorities have the capability of conducting analysis on Missouri's emergency service vehicle traffic crash problems.

Over the past few years, the ability to analyze Missouri's traffic safety problems using STARS data has been greatly enhanced, in large part, due to the Missouri Traffic Records Committee. This Committee was developed to act as an advisory body to the Missouri State Highway Patrol for upgrading and maintaining STARS.

Finally, the U.S. Department of Transportation, National Highway Traffic Safety Administration, has supported the Statistical Analysis Center's efforts to provide meaningful research services and publications to Missouri traffic safety authorities. Their financial support and technical assistance is appreciated.

Ronald G. Beck, Director
Statistical Analysis Center
Missouri State Highway Patrol

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EXECUTIVE SUMMARY

The purpose of this report is to provide the Missouri State Highway Patrol, the Missouri Department of Transportation, Highway Safety Division, and other State and local authorities with information on the problem of emergency service vehicle traffic crashes in the State of Missouri. In 2003, Missouri experienced 1,591 emergency service vehicle traffic crashes. Crashes of this nature are of special concern to traffic safety authorities because emergency service vehicles and, more importantly, their staff are critical public safety resources whose loss due to traffic crashes adversely affects the public welfare.

The primary source of data used in this study was the Missouri Statewide Traffic Accident Records System (STARS).

In 2003, there were 1,591 traffic crashes involving 1,628 emergency service vehicles in the State of Missouri. Six persons were killed and 473 persons were injured in these traffic crashes. Of the 1,628 emergency service vehicles involved, 375 (23.0%) were on an emergency run at the time of the crash. The seriousness of these traffic crashes is compounded by the fact that the incident no doubt delayed or prevented the unit from responding to the original emergency situation.

Police vehicles account for the majority of emergency service vehicles involved in Missouri traffic crashes. Of the 1,628 emergency vehicles involved in 2003 traffic crashes, 1,270 (78.0%) were law enforcement vehicles. This finding is not surprising since there are a significantly greater number of police vehicles in operation compared to ambulances and fire vehicles. In addition, many law enforcement units patrol Missouri roadways throughout their shift, while ambulances and fire vehicles are normally stationed at fixed locations until called to respond to a situation.

Of the 1,628 emergency vehicles involved in 2003 Missouri traffic crashes, 181 (11.1%) were fire vehicles. Although no accurate count is available, the number of fire vehicles in the State is estimated to be larger than the ambulance vehicle population but much less than the police vehicle population. As with ambulances, fire vehicles made up a higher proportion of those vehicles involved in traffic crashes while on emergency runs. Of the 375 vehicles making an emergency run when involved in a traffic crash in 2003, 57 (15.2%) were vehicles of this type.

Of the 1,628 emergency service vehicles involved in 2003 Missouri traffic crashes, 166 (10.2%) were ambulances. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic crashes while making emergency runs. Of the 375 emergency service vehicles involved in 2003 Missouri traffic crashes while on emergency runs, 50 (13.3%) were ambulances.

INTRODUCTION

This report is one in a series which identifies the magnitude, severity, and characteristics of emergency service vehicles involved in traffic crashes occurring in the State of Missouri. It describes Missouri's emergency service vehicle traffic crash experience in 2001 - 2003 with emphasis on the most recent year (2003).

Missouri traffic safety authorities have expressed an interest in studying these types of incidents for a number of reasons. First, in a sizable portion of these incidents, the emergency service vehicles are responding to other emergency situations. In most instances, their involvement in traffic crashes either delays or totally prevents them from providing the emergency care services being requested. The timeliness of providing their services can be a critical factor in preventing further death, serious injury, and/or property damage in emergency situations.

Second, emergency service vehicles and, more importantly, the staff who operate them are critical public safety resources which the community can ill afford to lose as a result of their involvement in traffic crashes. Costs associated with vehicle replacement or repair are high because these types of vehicles are configured for emergency response (i.e., heavy suspension systems, larger engines, improved braking systems, emergency lights, siren, etc.). Even more significant are losses resulting from qualified emergency service staff being killed or injured in these traffic crashes. The loss of technically trained emergency service manpower reduces the community's capabilities to adequately respond to future emergency situations.

Finally, emergency vehicles involved in traffic crashes can result in death and injury to not only emergency vehicle staff but to other parties involved in the traffic crash.

Data used in this study were obtained from the Missouri Statewide Traffic Accident Records System (STARS). This system is maintained by the Missouri State Highway Patrol (MSHP). In accordance with State statute, law enforcement agencies are required to investigate traffic crashes occurring on public roadways if they involve a death or personal injury or property damage over \$500.00. They submit their findings on a standard traffic accident report form to the STARS system. This standard traffic accident report form contains two fields designed to identify whether the vehicles involved were emergency service vehicles, the type of emergency service vehicle (police, fire, ambulance, or other), and whether or not it was on an emergency run.

Data from the traffic accident report forms are encoded by MSHP staff in computerized files. These files were made available to the MSHP Statistical Analysis Center (SAC) staff who conducted the analysis.

Not all motor vehicle incidents involving damage to emergency service vehicles or injury to its staff were analyzed in this study due to data non-availability. Data on traffic crashes occurring on private property, such as a private driveway, were not attainable for this analysis. In addition, certain incidents are not classified as traffic crashes. For instance, cases where police establish a roadblock and a pursued person uses their vehicle to intentionally ram the blocking police vehicle are not classified as traffic crashes and are not included in this analysis.

The findings from this study are described in the following four sections. The first section provides an overview of Missouri's emergency services traffic crash problem. The second section describes the findings from an analysis which focuses on police vehicle involvement. The third section describes fire vehicle involvement and the last section covers ambulance involvement.

1.0 EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW

This section presents a series of data displays which describe Missouri's emergency service vehicle traffic crash activity. Traffic crashes involving emergency service vehicles are defined as any crash in which one or more emergency service vehicles were directly involved in the incident. Emergency service vehicles include those assigned to law enforcement agencies, fire departments, and ambulance service agencies. In addition, vehicles operated by other agencies, such as public utilities and public service corporations, are considered emergency vehicles but only when they are actually performing emergency services.

SUMMARY OF ANALYSIS

- In 2003 there were 1,591 traffic crashes involving 1,628 emergency service vehicles in the State of Missouri. Six persons were killed and 473 persons were injured in these traffic crashes. One person was killed or injured every 18.3 hours in these types of crashes in 2003.
- Police vehicles comprise the largest number of emergency service vehicles involved in Missouri's traffic crashes. Of the 1,628 emergency service vehicles involved, 1,270 (78.0%) were police vehicles. They were involved in 1,245 traffic crashes. A total of 375 emergency service vehicles were on emergency runs when the traffic crash occurred. Of these, 257 (68.5%) were police vehicles. Law enforcement officers on-duty annual miles of travel are, no doubt, much greater than other types of emergency service providers. A large proportion of law enforcement officers are assigned to patrol Missouri's roadways throughout their normal shift of operations for crime prevention purposes as well as to provide quick response to calls for services. Normally, fire and ambulance service personnel are stationed at fixed locations from which they respond to emergency situations. In addition, there are larger numbers of police vehicles working Missouri's roadways than either ambulances or fire vehicles. The fact that law enforcement officers' on-duty miles of travel are substantially greater increases their risk of being involved in traffic crashes.
- Fire vehicles were the second most common type of emergency vehicle involved in Missouri's traffic crashes in 2003. Of the 1,628 emergency vehicles involved in 2003 Missouri traffic crashes, 181 (11.1%) were fire vehicles. They were involved in 179 traffic crashes. Of the 375 emergency vehicles on emergency run at the time of the traffic crash, 57 (15.2%) were fire vehicles.
- Ambulances were the third most frequent emergency vehicle type involved in Missouri's 2003 traffic crashes. Of the 1,628 emergency vehicles involved, 166 (10.2%) were ambulances. They were involved in 160 traffic crashes. Like fire vehicles, ambulances were more likely to be involved in a traffic crash when on an emergency run. Of the 375 emergency vehicles on emergency run when the traffic crash occurred, 13.3% were ambulances.
- Emergency vehicles classified as 'Other' made up a small proportion of those involved in Missouri's 2003 traffic crashes. Of the 1,628 emergency vehicles involved, only 11 (0.7%) were emergency vehicles classified as 'Other'.

2003 MISSOURI TRAFFIC CRASHES

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	5	0.5	305	0.7	1,281	0.9	1,591	0.9
NO ES VEHICLE INVOLVED	1,090	99.5	45,661	99.3	134,282	99.1	181,033	99.1
TOTAL	1,095	100.0	45,966	100.0	135,563	100.0	182,624	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED CRASHES

2001 - 2003

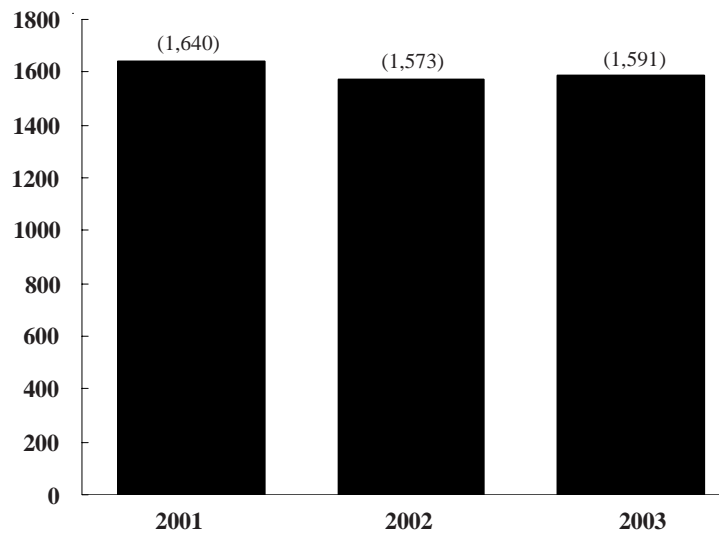


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

2003

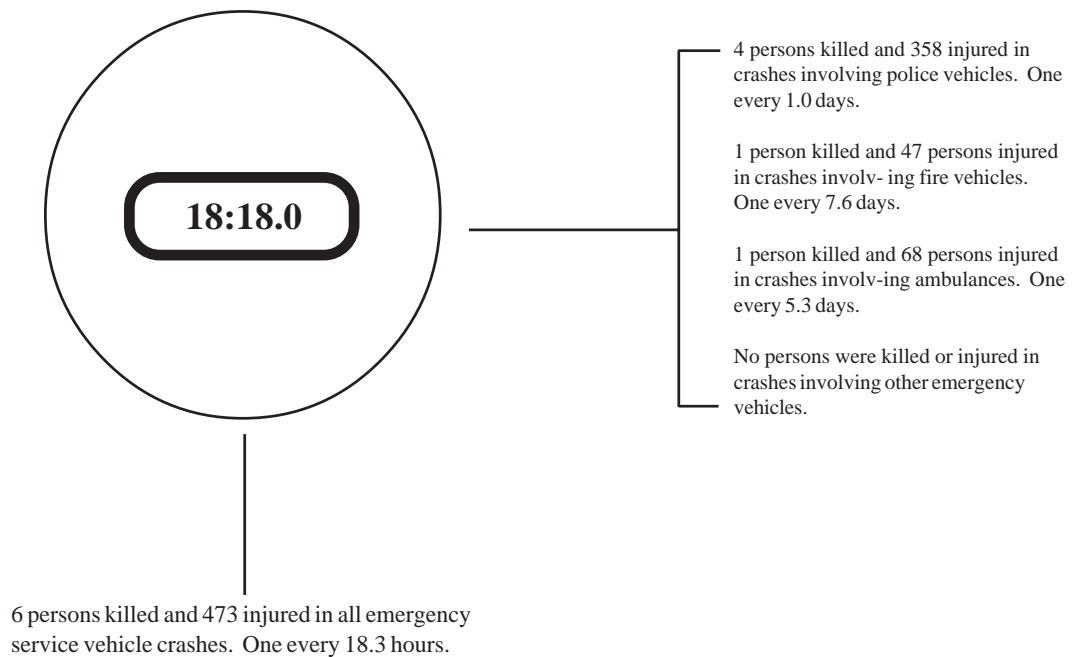


FIGURE 1.0.2

2003 MISSOURI EMERGENCY SERVICE (ES) VEHICLE CRASHES

TYPE OF EMERGENCY SERVICE VEHICLE INVOLVED

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	NUMBER OF ES VEHICLES INVOLVED¹
TOTAL NUMBER OF ES VEHICLE CRASHES	5	305	1,281	1,591	1,628
INVOLVING					
POLICE VEHICLE	3	236	1,006	1,245	1,270
FIRE VEHICLE	1	31	147	179	181
AMBULANCE	1	38	121	160	166
OTHER ES VEHICLE	0	0	11	11	11

¹The number of emergency service vehicles involved does not equal the number of emergency service traffic crashes since there are cases where more than one emergency service vehicle was involved in the same traffic crash. There were 1,591 traffic crashes involving 1,628 emergency service vehicles

TABLE 1.0.2

**TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN
2003 MISSOURI TRAFFIC CRASHES**

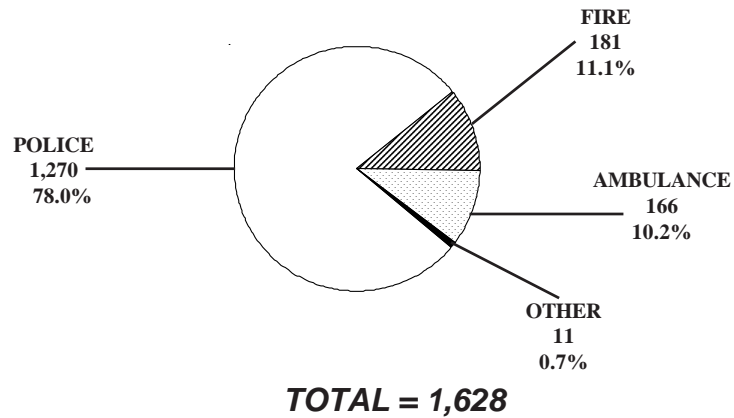
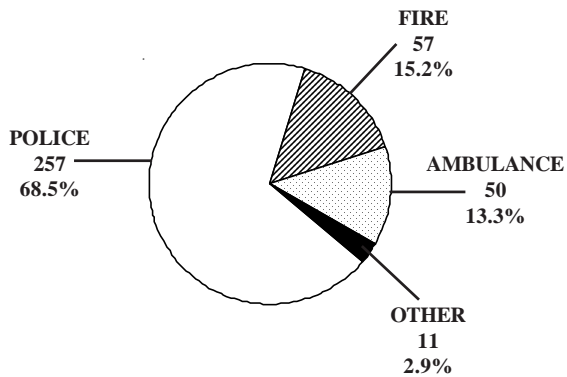


FIGURE 1.0.3

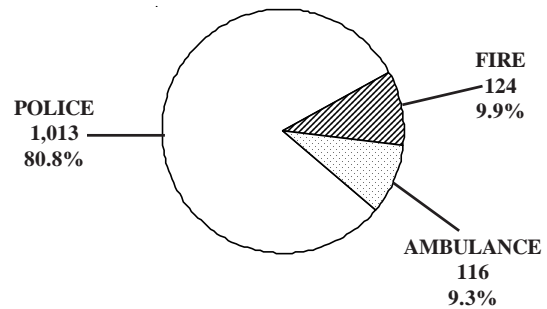
**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2003 MISSOURI
TRAFFIC CRASHES WHILE ON
EMERGENCY RUN**



TOTAL = 375

FIGURE 1.0.4

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2003 MISSOURI
TRAFFIC CRASHES NOT ON
EMERGENCY RUN**



TOTAL = 1,253

FIGURE 1.0.5

2.0 POLICE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify police vehicle involvement in Missouri's traffic crash activity. Police vehicle traffic crashes are defined as any crash in which one or more police vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the police vehicle drivers involved in these traffic crashes.

2003 SUMMARY ANALYSIS

- In 2003, there were 1,245 traffic crashes involving one or more police vehicles in the State of Missouri. Four persons were killed and 358 were injured in these crashes.
- In 20.0% of the traffic crashes involving police vehicles, the police vehicle was on an emergency run at the time of the incident.
- In 2003, one person was killed or injured in a police vehicle related crash every 1.0 days in the State of Missouri.
- Of all 2003 crashes involving police vehicles, the first harmful event in 55.3% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 20.2% of the cases, it involved a motor vehicle striking a fixed object. In 12.7% of the cases, the vehicle struck an animal.
- Of all 2003 crashes involving police vehicles, 54.7% occurred in an urban area of the State and 45.3% occurred in a rural area.
- Of all police vehicle drivers in 2003 traffic crashes, 89.1% were male and 10.9% were female. The average age of the police vehicle driver was 34.5 years.
- There were 1,270 police vehicles in the 1,245 traffic crashes in the State. Of these, 1,120 or 88.7% were automobiles.

2003 POLICE VEHICLE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹			POLICE VEHICLE DRIVERS/PASSENGERS ²	
									KILLED	INJURED		KILLED	INJURED
POLICE VEHICLE ON RUN	3	100.0	60	25.4	186	18.5	249	20.0	4	99		1	54
POLICE VEHICLE NOT ON RUN	0	0.0	176	74.6	820	81.5	996	80.0	0	259		0	152
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0	4	358		1	206

¹This statistic indicates the total number of persons killed and injured in a crash where one or more police vehicles were involved.

²This statistic indicates the number of police vehicle drivers and passengers killed and injured.

TABLE 2.0.1

2002 and 2003 POLICE VEHICLE INVOLVED CRASH ANALYSIS

	2002	2003	RATE OF CHANGE
FATAL	1	3	+ 200.0
PERSONAL INJURY	212	236	+ 11.3
PROPERTY DAMAGE	995	1,006	+ 1.1
TOTAL	1,208	1,245	+ 3.1

TABLE 2.0.2

2003 POLICE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	6	2.5	152	15.1	158	12.7
BICYCLIST	0	0.0	1	0.4	4	0.4	5	0.4
FIXED OBJECT	0	0.0	35	14.8	217	21.6	252	20.2
OTHER OBJECT	0	0.0	1	0.4	33	3.3	34	2.7
PEDESTRIAN	0	0.0	8	3.4	1	0.1	9	0.7
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	3	100.0	169	71.6	516	51.3	688	55.3
VEHICLE ON OTHER ROADWAY	0	0.0	3	1.3	1	0.1	4	0.3
PARKED VEHICLE	0	0.0	4	1.7	72	7.2	76	6.1
NON-COLLISION OVERTURN	0	0.0	7	3.0	2	0.2	9	0.7
NON-COLLISION OTHER	0	0.0	2	0.9	8	0.8	10	0.8
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

TABLE 2.0.3

2003 POLICE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	3	100.0	137	58.0	541	53.8	681	54.7
RURAL	0	0.0	99	42.0	465	46.2	564	45.3
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

TABLE 2.0.4

2003 POLICE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	3	100.0	200	85.1	834	83.6	1,037	83.9
CURVE	0	0.0	35	14.9	164	16.4	199	16.1
UNKNOWN	0	-	1	-	8	-	9	-
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

TABLE 2.0.5

2003 POLICE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	33.3	156	66.7	667	67.0	824	66.9
HILL	2	66.7	71	30.3	304	30.6	377	30.6
CREST	0	0.0	7	3.0	24	2.4	31	2.5
UNKNOWN	0	-	2	-	11	-	13	-
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

TABLE 2.0.6

2003 POLICE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	3	100.0	194	83.6	801	79.9	998	80.7
WET	0	0.0	32	13.8	151	15.1	183	14.8
SNOW	0	0.0	4	1.7	34	3.4	38	3.1
ICE	0	0.0	2	0.9	9	0.9	11	0.9
SLUSH	0	0.0	0	0.0	3	0.3	3	0.2
MUD	0	0.0	0	0.0	0	0.0	0	0.0
STANDING WATER	0	0.0	0	0.0	4	0.4	4	0.3
MOVING WATER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	4	-	4	-	8	-
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

TABLE 2.0.7

2003 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	20	8.5	82	8.2	102	8.2
U.S. HIGHWAY	0	0.0	22	9.3	94	9.3	116	9.3
STATE NUMBERED	0	0.0	44	18.6	157	15.6	201	16.1
SINGLE STATE LETTERED	0	0.0	15	6.4	71	7.1	86	6.9
DOUBLE STATE LETTERED	0	0.0	8	3.4	22	2.2	30	2.4
OUTER ROAD	0	0.0	3	1.3	7	0.7	10	0.8
COUNTY ROAD	1	33.3	15	6.4	93	9.2	109	8.8
CITY STREET	2	66.7	100	42.4	419	41.7	521	41.9
INTERSTATE LOOP	0	0.0	1	0.4	4	0.4	5	0.4
OTHER ¹	0	0.0	8	3.4	57	5.7	65	5.2
TOTAL	3	100.0	236	100.0	1,006	100.0	1,245	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.8

2003 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	11	8.0	35	6.5	46	6.8	0	0.0	9	9.1	47	10.1	56	9.9
U.S. HIGHWAY	0	0.0	8	5.8	33	6.1	41	6.0	0	0.0	14	14.1	61	13.1	75	13.3
STATE NUMBERED	0	0.0	14	10.2	45	8.3	59	8.7	0	0.0	30	30.3	112	24.1	142	25.2
SINGLE STATE LETTERED	0	0.0	3	2.2	8	1.5	11	1.6	0	0.0	12	12.1	63	13.6	75	13.3
DOUBLE STATE LETTERED	0	0.0	0	0.0	4	0.7	4	0.6	0	0.0	8	8.1	18	3.9	26	4.6
OUTER ROAD	0	0.0	1	0.7	5	0.9	6	0.9	0	0.0	2	2.0	2	0.4	4	0.7
COUNTY ROAD	1	33.3	2	1.5	15	2.8	18	2.6	0	0.0	13	13.1	78	16.8	91	16.1
CITY STREET	2	66.7	91	66.4	344	63.6	437	64.2	0	0.0	9	9.1	75	16.1	84	14.9
INTERSTATE LOOP	0	0.0	1	0.7	3	0.6	4	0.6	0	0.0	0	0.0	1	0.2	1	0.2
OTHER ¹	0	0.0	6	4.4	49	9.1	55	8.1	0	0.0	2	2.0	8	1.7	10	1.8
TOTAL	3	0.0	137	100.0	541	100.0	681	100.0	0	0.0	99	100.0	465	100.0	564	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.9

**2003 POLICE VEHICLE INVOLVED CRASHES
MONTH OF YEAR**

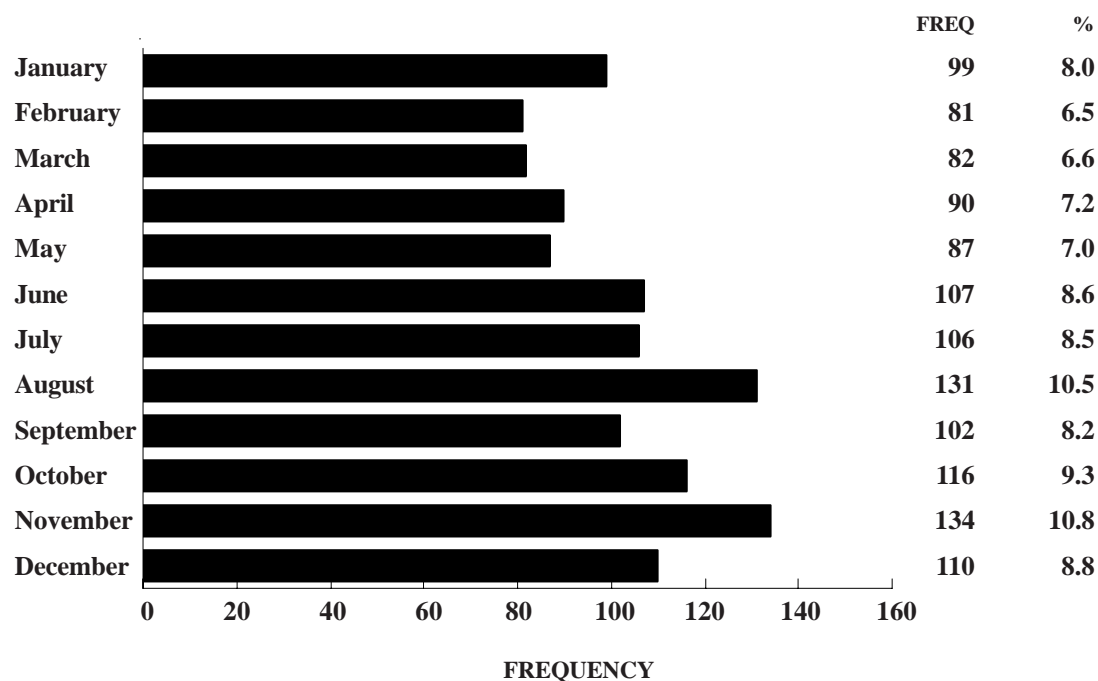


FIGURE 2.0.1

**2003 POLICE VEHICLE INVOLVED CRASHES
DAY OF WEEK**

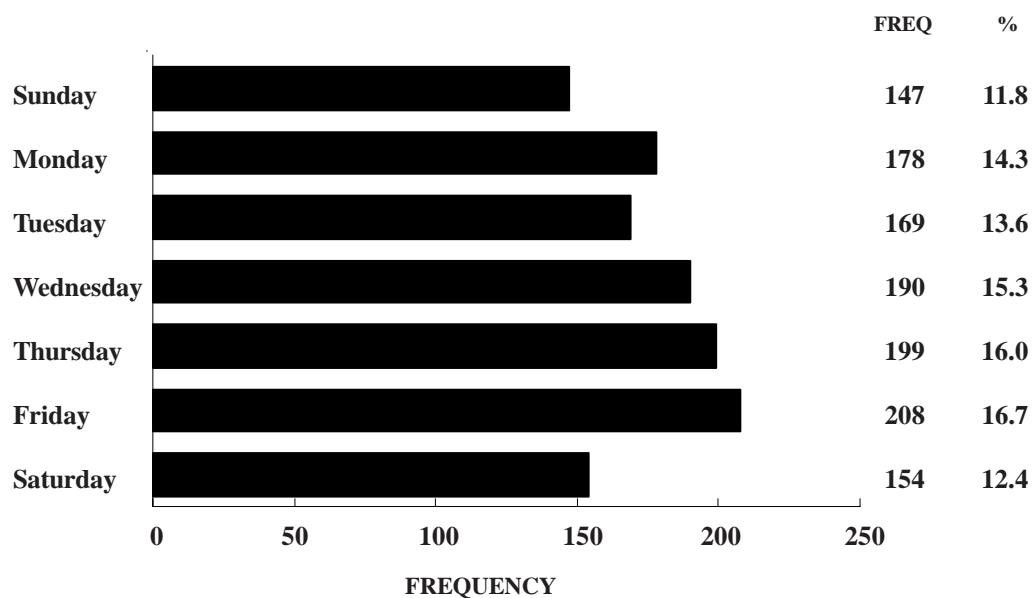


FIGURE 2.0.2

**2003 POLICE VEHICLE INVOLVED CRASHES
HOUR OF DAY**

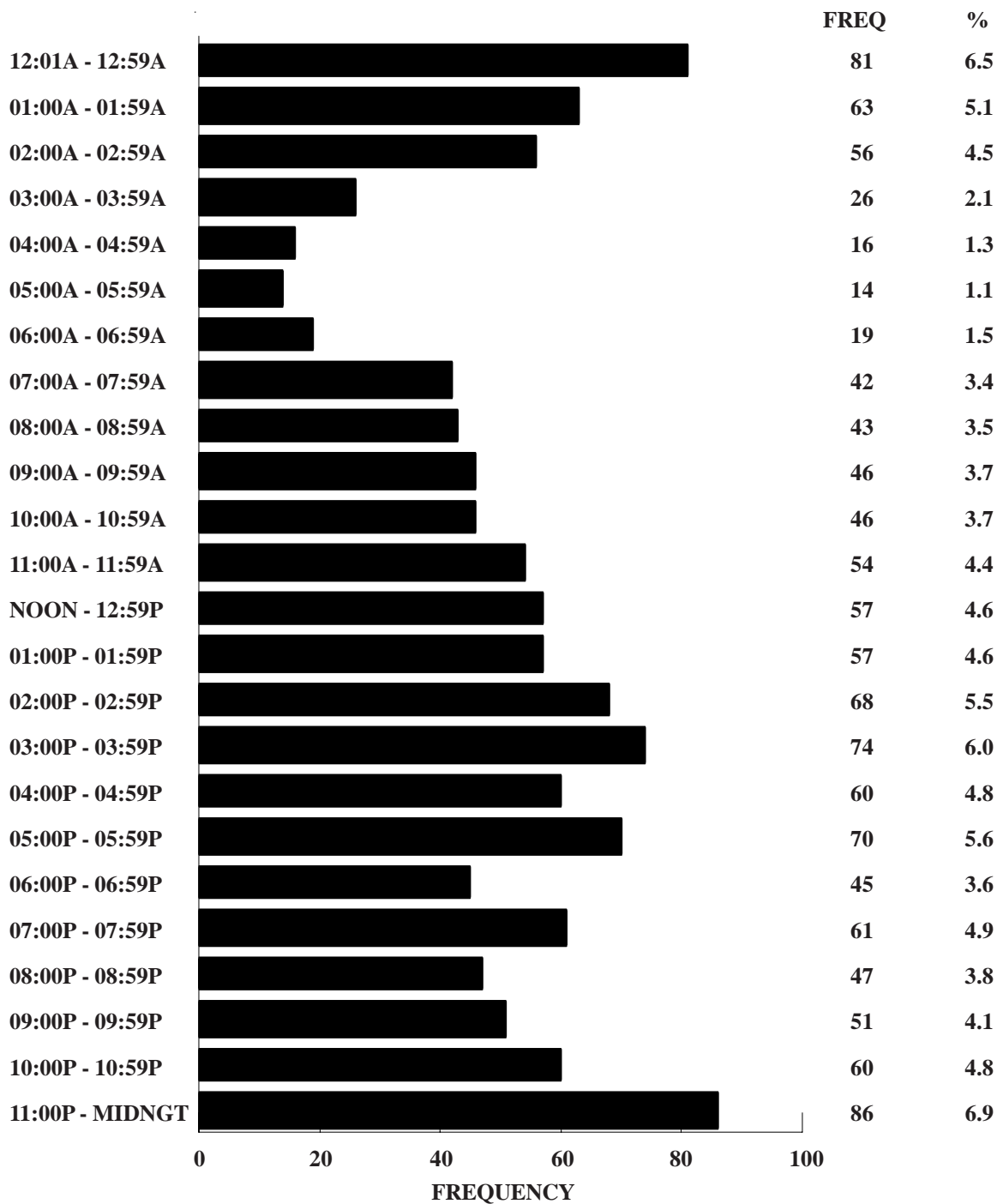


FIGURE 2.0.3

Unknown Data Not Included

2003 MISSOURI POLICE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY POLICE VEHICLE CRASHES = 239				TOTAL POLICE VEHICLE CRASHES = 1,245		
	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	0.8	0.8	1.6	1.4	1.8	3.1
TRAFFIC CONTROL INOPERATIVE / MISSING	0.4	0.0	0.4	0.1	0.1	0.2
IMPROPERLY STOPPED ON ROADWAY	0.0	1.7	1.7	0.1	0.8	0.9
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	13.0	12.6	25.1	9.2	6.4	15.3
IMPROPER PASSING	1.3	0.4	1.7	0.6	0.6	1.2
VIOLATION OF STOP SIGN	4.2	9.2	13.0	1.1	3.8	4.8
WRONG SIDE NOT PASSING	1.3	0.8	1.7	0.8	0.8	1.5
FOLLOWING TOO CLOSE	2.1	2.9	5.0	2.1	2.9	4.9
IMPROPER SIGNAL	0.0	0.0	0.0	0.1	0.1	0.2
IMPROPER BACKING	0.4	0.4	0.8	2.2	2.7	4.8
IMPROPER TURN	2.1	2.5	4.6	1.5	1.7	3.2
IMPROPER LANE USAGE / CHANGE	2.1	4.6	6.7	1.8	3.9	5.7
WRONG WAY ONE-WAY STREET	0.4	0.8	1.2	0.1	0.2	0.3
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.5	0.5
IMPROPERLY PARKED	0.4	0.0	0.4	0.1	0.9	1.0
FAILED TO YIELD	3.8	20.9	24.7	3.9	12.8	16.4
DRINKING	2.9	6.7	9.6	0.9	3.5	4.4
DRUGS	0.4	1.3	1.7	0.2	0.6	0.8
PHYSICAL IMPAIRMENT	1.7	1.3	2.9	0.8	0.4	1.2
INATTENTION	14.2	18.8	31.4	16.2	13.2	28.2

¹This table identifies the percentage of crashes involving one or more police vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his police vehicle as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 2003 Missouri police vehicle crashes, it was found that a police vehicle driver was speeding in 9.2% of the crashes. In 6.4% of the crashes another driver was speeding. In 15.3% of the crashes either a police vehicle driver, another driver, or both drivers were speeding.

TABLE 2.0.10

POLICE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	3	100.0	204	84.7	913	89.6	1,120	88.7
SPORT UTILITY VEHICLE	0	0.0	8	3.3	29	2.9	37	2.9
VAN	0	0.0	7	2.9	27	2.7	34	2.7
BUS	0	0.0	0	0.0	1	0.1	1	0.1
MOTORCYCLE	0	0.0	5	2.1	1	0.1	6	0.5
FARMEQUIPMENT	0	0.0	0	0.0	1	0.1	1	0.1
CONSTRUCTION EQUIPMENT	0	0.0	0	0.0	2	0.2	2	0.2
OTHER TRANSPORT DEVICE	0	0.0	0	0.0	1	0.1	1	0.1
PICK-UP TRUCK	0	0.0	14	5.8	35	3.4	49	3.9
OTHER TRUCK	0	0.0	3	1.2	9	0.9	12	1.0
UNKNOWN	0	-	2	-	5	-	7	-
TOTAL	3	100.0	243	100.0	1,024	100.0	1,270	100.0

TABLE 2.0.11

POLICE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	3	100.0	243	100.0	1,016	99.2	1,262	99.4
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	8	0.8	8	0.6
TOTAL	3	100.0	243	100.0	1,024	100.0	1,270	100.0

TABLE 2.0.12

DRIVERS OF POLICE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	3	100.0	213	87.7	909	89.5	1,125	89.1
FEMALE	0	0.0	30	12.3	107	10.5	137	10.9
UNKNOWN	0	-	0	-	8	-	8	-
TOTAL	3	100.0	243	100.0	1,024	100.0	1,270	100.0

TABLE 2.0.13

DRIVERS OF POLICE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

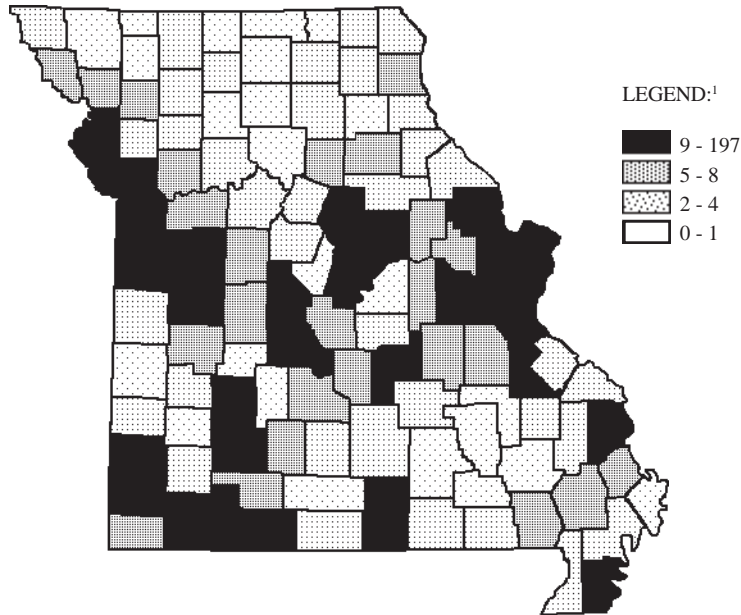
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	38.7	-	34.6	-	34.4	-	34.5	-
14 YEARS AND UNDER	0	0.0	0	0.0	1	0.1	1	0.1
15 - 20 YEARS	0	0.0	3	1.2	18	1.8	21	1.7
21 - 25 YEARS	0	0.0	33	13.7	153	15.1	186	14.8
26 - 30 YEARS	2	66.7	61	25.3	253	25.0	316	25.2
31 - 35 YEARS	0	0.0	64	26.6	223	22.1	287	22.9
36 - 40 YEARS	0	0.0	25	10.4	125	12.4	150	12.0
41 - 45 YEARS	0	0.0	22	9.1	75	7.4	97	7.7
46 - 50 YEARS	0	0.0	16	6.6	74	7.3	90	7.2
51 - 55 YEARS	0	0.0	6	2.5	53	5.2	59	4.7
56 - 60 YEARS	1	33.3	3	1.2	19	1.9	23	1.8
61 - 65 YEARS	0	0.0	4	1.7	12	1.2	16	1.3
66 YEARS AND OVER	0	0.0	4	1.7	5	0.5	9	0.7
UNKNOWN	0	-	2	-	13	-	15	-
TOTAL	3	100.0	243	100.0	1,024	100.0	1,270	100.0

TABLE 2.0.14

2003 POLICE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	197	15.8	22.0	JOHNSON	11	0.9
2.0	ST. LOUIS	196	15.7	24.0	CAMDEN	10	0.8
3.0	ST. LOUIS CITY	126	10.1	24.0	COLE	10	0.8
4.0	ST. CHARLES	52	4.2	24.0	NEWTON	10	0.8
5.0	CLAY	39	3.1	28.0	HENRY	9	0.7
6.0	GREENE	33	2.7	28.0	HOWELL	9	0.7
7.0	BOONE	25	2.0	28.0	MORGAN	9	0.7
8.5	JASPER	23	1.8	28.0	POLK	9	0.7
8.5	ST. FRANCOIS	23	1.8	28.0	STONE	9	0.7
10.0	JEFFERSON	21	1.7	First Quartile			
11.5	CASS	18	1.4	Second Quartile			
11.5	FRANKLIN	18	1.4	32.5	MONROE	8	0.6
13.0	PHELPS	16	1.3	32.5	MONTGOMERY	8	0.6
14.0	PLATTE	15	1.2	32.5	RANDOLPH	8	0.6
16.5	BARRY	13	1.0	32.5	STODDARD	8	0.6
16.5	BUCHANAN	13	1.0	38.0	ANDREW	7	0.6
16.5	LINCOLN	13	1.0	38.0	DE KALB	7	0.6
16.5	TANEY	13	1.0	38.0	GASCONADE	7	0.6
20.0	CALLAWAY	12	1.0	38.0	MC DONALD	7	0.6
20.0	CAPE GIRARDEAU	12	1.0	38.0	ST. CLAIR	7	0.6
20.0	PEMISCOT	12	1.0				

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
38.0	SCOTT	7	0.6	82.5	CLARK	2	0.2
38.0	WARREN	7	0.6	82.5	CLINTON	2	0.2
44.5	BENTON	6	0.5	82.5	DAVISS	2	0.2
44.5	CHRISTIAN	6	0.5	82.5	DENT	2	0.2
44.5	CRAWFORD	6	0.5	82.5	DUNKLIN	2	0.2
44.5	MILLER	6	0.5	82.5	HARRISON	2	0.2
44.5	PULASKI	6	0.5	82.5	KNOX	2	0.2
44.5	WASHINGTON	6	0.5	82.5	LAWRENCE	2	0.2
51.5	BUTLER	5	0.4	82.5	MADISON	2	0.2
51.5	HOLT	5	0.4	82.5	OREGON	2	0.2
51.5	LACLEDE	5	0.4	82.5	RALLS	2	0.2
51.5	LAFAYETTE	5	0.4	82.5	RIPLEY	2	0.2
51.5	LEWIS	5	0.4	82.5	STE. GENEVIEVE	2	0.2
51.5	PETTIS	5	0.4	82.5	WRIGHT	2	0.2
51.5	RAY	5	0.4				
51.5	WEBSTER	5	0.4				
Second Quartile				Third Quartile			
Third Quartile				Fourth Quartile			
59.0	BOLLINGER	4	0.3	99.0	DOUGLAS	1	0.1
59.0	MARIES	4	0.3	99.0	GENTRY	1	0.1
59.0	MARION	4	0.3	99.0	HICKORY	1	0.1
59.0	NEW MADRID	4	0.3	99.0	IRON	1	0.1
59.0	PIKE	4	0.3	99.0	LINN	1	0.1
59.0	SALINE	4	0.3	99.0	LIVINGSTON	1	0.1
59.0	TEXAS	4	0.3	99.0	MISSISSIPPI	1	0.1
68.0	ATCHISON	3	0.2	99.0	MONITEAU	1	0.1
68.0	AUDRAIN	3	0.2	99.0	NODAWAY	1	0.1
68.0	CALDWELL	3	0.2	99.0	OSAGE	1	0.1
68.0	CARROLL	3	0.2	99.0	PUTNAM	1	0.1
68.0	COOPER	3	0.2	99.0	REYNOLDS	1	0.1
68.0	GRUNDY	3	0.2	99.0	SCHUYLER	1	0.1
68.0	HOWARD	3	0.2	99.0	SHANNON	1	0.1
68.0	MACON	3	0.2	99.0	WORTH	1	0.1
68.0	OZARK	3	0.2	111.0	CARTER	0	0.0
68.0	PERRY	3	0.2	111.0	CHARITON	0	0.0
68.0	SCOTLAND	3	0.2	111.0	DADE	0	0.0
82.5	ADAIR	2	0.2	111.0	DALLAS	0	0.0
82.5	BARTON	2	0.2	111.0	MERCER	0	0.0
82.5	BATES	2	0.2	111.0	SHELBY	0	0.0
82.5	CEDAR	2	0.2	111.0	SULLIVAN	0	0.0
				111.0	VERNON	0	0.0
				111.0	WAYNE	0	0.0

TABLE 2.0.15

3.0 FIRE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify fire vehicle involvement in Missouri's traffic crash activity. Fire vehicle traffic crashes are defined as any crash in which one or more fire vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the fire vehicle drivers involved in these traffic crashes.

2003 SUMMARY ANALYSIS

- In 2003, there were 179 traffic crashes involving one or more fire vehicles in the State of Missouri. One person was killed and 47 were injured in these crashes.
- In 31.8% of the traffic crashes involving fire vehicles, the fire vehicle was on an emergency run at the time of the incident.
- In 2003, one person was injured in a fire vehicle related crash every 7.6 days in the State of Missouri.
- Of all 2003 crashes involving fire vehicles, the first harmful event in 50.8% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 23.5% of the cases, it involved a motor vehicle striking a parked vehicle. In 16.8% of the cases, the vehicle struck a fixed object.
- Of all 2003 crashes involving fire vehicles, 73.7% occurred in an urban area of the State and 26.3% occurred in a rural area.
- Of all fire vehicle drivers in 2003 traffic crashes, 95.5% were male and 4.5% were female. The average age of the fire vehicle driver was 39.5 years.

2003 FIRE VEHICLE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹			FIRE VEHICLE DRIVERS/PASSENGERS ²	
									KILLED	INJURED		KILLED	INJURED
FIRE VEHICLE ON RUN	1	100.0	16	51.6	40	27.2	57	31.8	1	24		0	12
FIRE VEHICLE NOT ON RUN	0	0.0	15	48.4	107	72.8	122	68.2	0	23		0	13
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0	1	47		0	25

¹This statistic indicates the total number of persons killed and injured in a crash where one or more fire vehicles were involved.

²This statistic indicates the number of fire vehicle drivers and passengers killed and injured.

TABLE 3.0.1

2002 and 2003 FIRE VEHICLE INVOLVED CRASH ANALYSIS

	2002	2003	RATE OF CHANGE
FATAL	0	1	(+1)
PERSONAL INJURY	23	31	+ 34.8
PROPERTY DAMAGE	158	147	- 7.0
TOTAL	181	179	- 1.1

TABLE 3.0.2

2003 FIRE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	6	4.1	6	3.4
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	5	16.1	25	17.0	30	16.8
OTHER OBJECT	0	0.0	0	0.0	2	1.4	2	1.1
PEDESTRIAN	0	0.0	1	3.2	0	0.0	1	0.6
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	1	100.0	19	61.3	71	48.3	91	50.8
VEHICLE ON OTHER ROADWAY	0	0.0	1	3.2	1	0.7	2	1.1
PARKED VEHICLE	0	0.0	0	0.0	42	28.6	42	23.5
NON-COLLISION OVERTURN	0	0.0	5	16.1	0	0.0	5	2.8
NON-COLLISION OTHER	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

TABLE 3.0.3

2003 FIRE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	100.0	16	51.6	115	78.2	132	73.7
RURAL	0	0.0	15	48.4	32	21.8	47	26.3
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

TABLE 3.0.4

2003 FIRE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	100.0	25	80.7	131	89.1	157	87.7
CURVE	0	0.0	6	19.3	16	10.9	22	12.3
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

TABLE 3.0.5

2003 FIRE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	100.0	17	54.8	116	80.6	134	76.1
HILL	0	0.0	13	41.9	27	18.7	40	22.7
CREST	0	0.0	1	3.2	1	0.7	2	1.1
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

TABLE 3.0.6

2003 FIRE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	100.0	22	71.0	109	74.7	132	74.2
WET	0	0.0	7	22.6	31	21.2	38	21.4
SNOW	0	0.0	1	3.2	5	3.4	6	3.4
ICE	0	0.0	1	3.2	1	0.7	2	1.1
SLUSH	0	0.0	0	0.0	0	0.0	0	0.0
MUD	0	0.0	0	0.0	0	0.0	0	0.0
STANDING WATER	0	0.0	0	0.0	0	0.0	0	0.0
MOVING WATER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

TABLE 3.0.7

2003 FIRE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	4	2.7	4	2.2
U.S. HIGHWAY	0	0.0	3	9.7	7	4.8	10	5.6
STATE NUMBERED	0	0.0	5	16.1	14	9.5	19	10.6
SINGLE STATE LETTERED	0	0.0	7	22.6	8	5.4	15	8.4
DOUBLE STATE LETTERED	0	0.0	1	3.2	0	0.0	1	0.6
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	3	9.7	6	4.1	9	5.0
CITY STREET	1	100.0	12	38.7	99	67.4	112	62.6
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	9	6.1	9	5.0
TOTAL	1	100.0	31	100.0	147	100.0	179	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.8

2003 FIRE VEHICLE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	1	0.9	1	0.8	0	0.0	0	0.0	3	9.4	3	6.4
U.S. HIGHWAY	0	0.0	1	6.3	3	2.6	4	3.0	0	0.0	2	13.3	4	12.5	6	12.8
STATE NUMBERED	0	0.0	3	18.8	7	6.1	10	7.6	0	0.0	2	13.3	7	21.9	9	19.2
SINGLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	46.7	8	25.0	15	31.9
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	6.7	0	0.0	1	2.1
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	1	6.3	2	1.7	3	2.3	0	0.0	2	13.3	4	12.5	6	12.8
CITY STREET	1	100.0	11	68.8	93	80.9	105	79.6	0	0.0	1	6.7	6	18.8	7	14.9
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	9	7.8	9	6.8	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	16	100.0	115	100.0	132	100.0	0	0.0	15	100.0	32	100.0	47	100.0

¹"Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.9

**2003 FIRE VEHICLE INVOLVED CRASHES
MONTH OF YEAR**

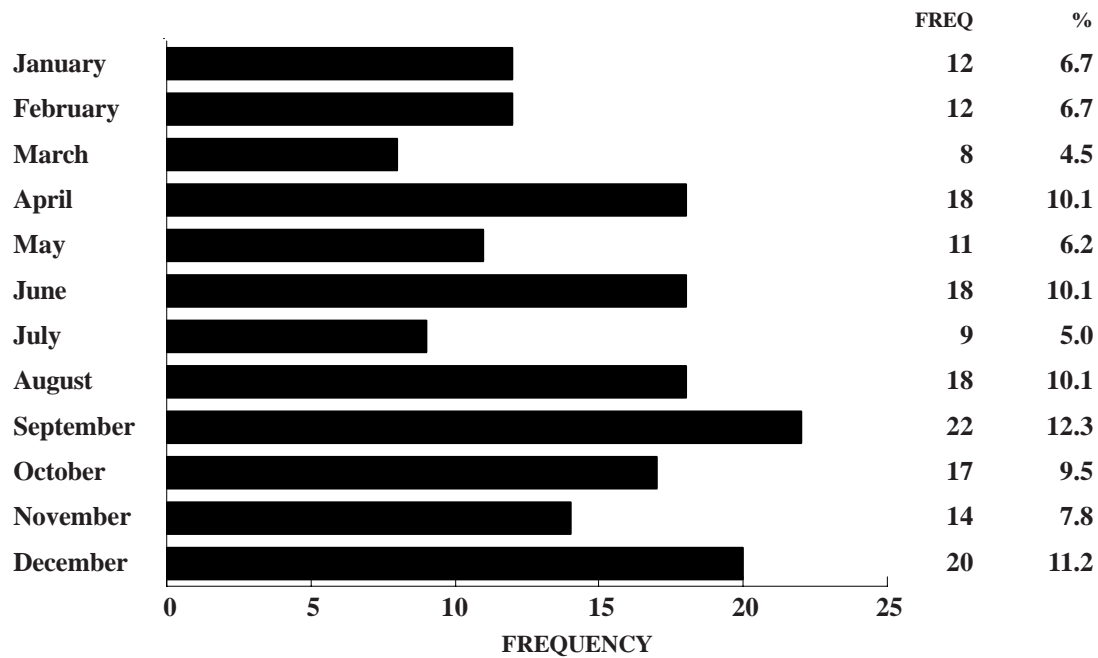


FIGURE 3.0.1

**2003 FIRE VEHICLE INVOLVED CRASHES
DAY OF WEEK**

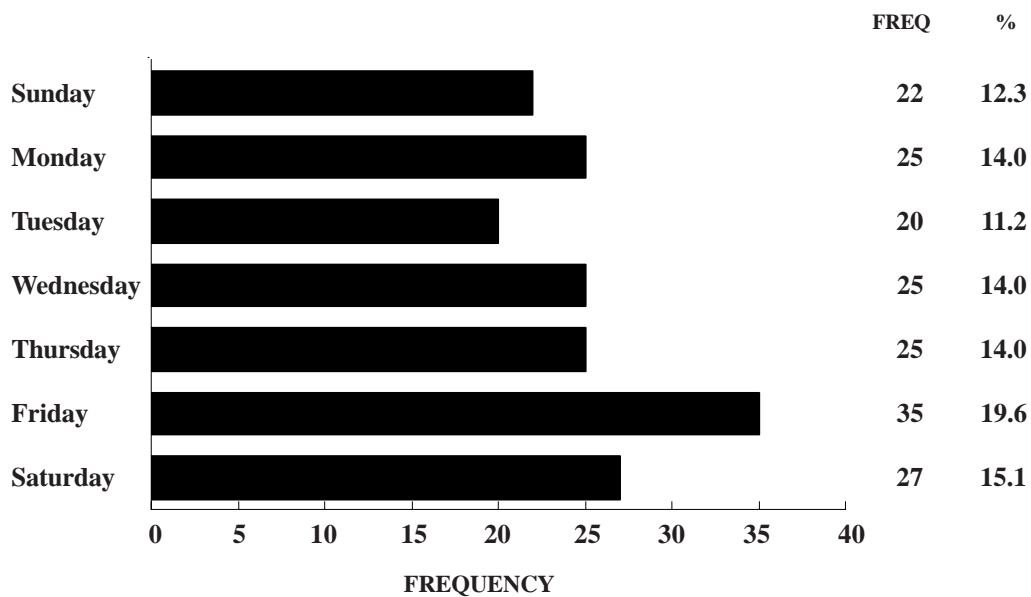


FIGURE 3.0.2

**2003 FIRE VEHICLE INVOLVED CRASHES
HOUR OF DAY**

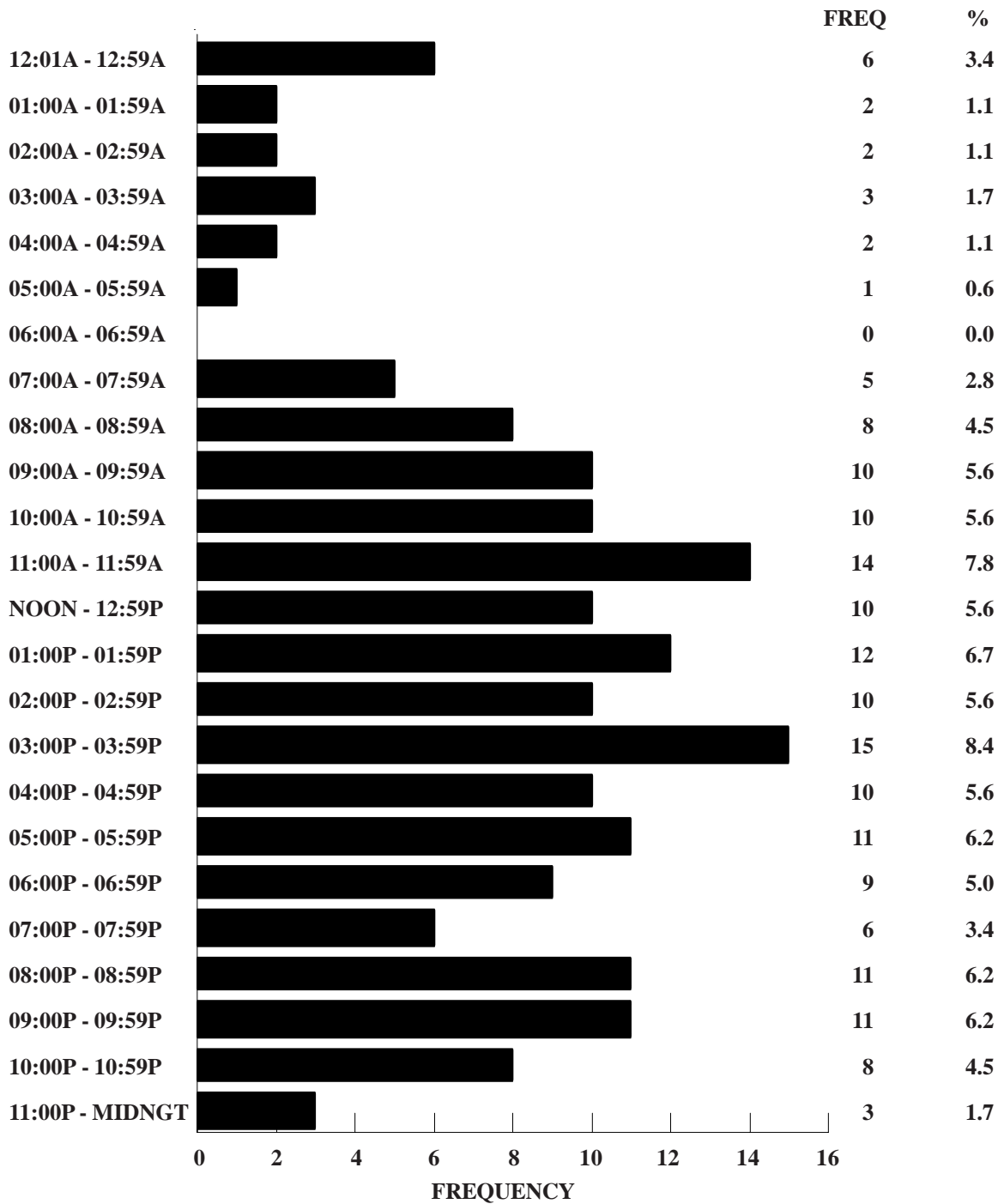


FIGURE 3.0.3

2003 MISSOURI FIRE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY FIRE VEHICLE CRASHES = 32				TOTAL FIRE VEHICLE CRASHES = 179		
	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	12.5	0.0	12.5	7.8	0.0	7.8
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	0.0	0.0
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	12.5	15.6	28.1	2.8	5.0	7.8
IMPROPER PASSING	3.1	0.0	3.1	2.2	1.7	3.9
VIOLATION OF STOP SIGN	3.1	9.4	12.5	0.6	2.2	2.8
WRONG SIDE NOT PASSING	0.0	3.1	3.1	0.0	0.6	0.6
FOLLOWING TOO CLOSE	0.0	3.1	3.1	1.7	2.2	3.4
IMPROPER SIGNAL	0.0	0.0	0.0	0.6	0.6	1.1
IMPROPER BACKING	0.0	0.0	0.0	5.6	0.0	5.6
IMPROPER TURN	0.0	0.0	0.0	5.0	0.6	5.0
IMPROPER LANE USAGE / CHANGE	0.0	3.1	3.1	3.9	2.2	5.6
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.0	1.1	1.1
FAILED TO YIELD	6.3	28.1	31.3	1.1	14.0	14.5
DRINKING	0.0	0.0	0.0	0.0	0.0	0.0
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	0.0	3.1	3.1	0.0	1.1	1.1
INATTENTION	15.6	25.0	37.5	20.7	10.6	30.2

¹This table identifies the percentage of crashes involving one or more fire vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his fire vehicle as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 2003 Missouri fire vehicle crashes, it was found that a fire vehicle driver was speeding in 2.8% of the crashes. In 5.0% of the crashes another driver was speeding. In 7.8% of the crashes either a fire vehicle driver, another driver, or both drivers were speeding.

TABLE 3.0.10

FIRE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	4	12.9	6	4.2	10	5.7
SPORT UTILITY VEHICLE	0	0.0	1	3.2	10	7.0	11	6.3
LIMOUSINE	0	0.0	0	0.0	1	0.7	1	0.6
VAN	0	0.0	1	3.2	3	2.1	4	2.3
BUS	0	0.0	0	0.0	1	0.7	1	0.6
MOTORCYCLE	0	0.0	1	3.2	0	0.0	1	0.6
OTHER TRANSPORT DEVICE	0	0.0	2	6.5	22	15.4	24	13.7
PICK-UP TRUCK	0	0.0	8	25.8	6	4.2	14	8.0
OTHER TRUCK	1	100.0	14	45.2	94	65.7	109	62.3
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	1	100.0	31	100.0	149	100.0	181	100.0

TABLE 3.0.11

FIRE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	1	100.0	31	100.0	146	98.0	178	98.3
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	3	2.0	3	1.7
TOTAL	1	100.0	31	100.0	149	100.0	181	100.0

TABLE 3.0.12

DRIVERS OF FIRE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	1	100.0	28	90.3	141	96.6	170	95.5
FEMALE	0	0.0	3	9.7	5	3.4	8	4.5
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	1	100.0	31	100.0	149	100.0	181	100.0

TABLE 3.0.13

DRIVERS OF FIRE VEHICLES INVOLVED IN 2003 MISSOURI CRASHES

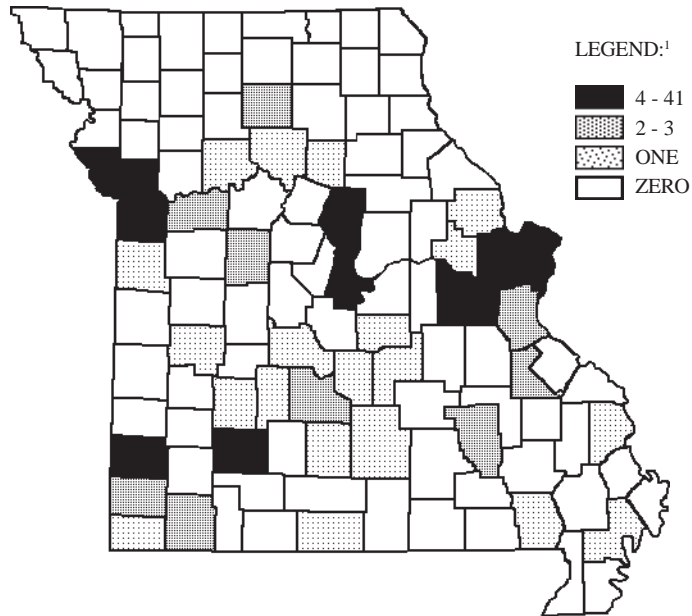
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	36.0	-	38.9	-	39.6	-	39.5	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	2	6.5	5	3.6	7	4.1
21 - 25 YEARS	0	0.0	4	12.9	5	3.6	9	5.2
26 - 30 YEARS	0	0.0	2	6.5	14	9.9	16	9.3
31 - 35 YEARS	0	0.0	8	25.8	25	17.7	33	19.1
36 - 40 YEARS	1	100.0	5	16.1	35	24.8	41	23.7
41 - 45 YEARS	0	0.0	1	3.2	22	15.6	23	13.3
46 - 50 YEARS	0	0.0	3	9.7	11	7.8	14	8.1
51 - 55 YEARS	0	0.0	2	6.5	15	10.6	17	9.8
56 - 60 YEARS	0	0.0	1	3.2	7	5.0	8	4.6
61 - 65 YEARS	0	0.0	2	6.5	0	0.0	2	1.2
66 YEARS AND OVER	0	0.0	1	3.2	2	1.4	3	1.7
UNKNOWN	0	-	0	-	8	-	8	-
TOTAL	1	100.0	31	100.0	149	100.0	181	100.0

TABLE 3.0.14

2003 FIRE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	41	22.9	17.0	REYNOLDS	2	1.1
2.0	ST. LOUIS	32	17.9	17.0	ST. FRANCOIS	2	1.1
3.0	JACKSON	26	14.5	Second Quartile			
4.0	CLAY	8	4.5	Third Quartile			
5.0	ST. CHARLES	6	3.4	30.5	BUTLER	1	0.6
6.5	BOONE	5	2.8	30.5	CAMDEN	1	0.6
6.5	FRANKLIN	5	2.8	30.5	CAPE GIRARDEAU	1	0.6
9.5	COLE	4	2.2	30.5	CARROLL	1	0.6
9.5	GREENE	4	2.2	30.5	CASS	1	0.6
9.5	JASPER	4	2.2	30.5	CHARITON	1	0.6
9.5	PLATTE	4	2.2	30.5	DALLAS	1	0.6
First Quartile				30.5	LINCOLN	1	0.6
Second Quartile				30.5	MC DONALD	1	0.6
12.5	JEFFERSON	3	1.7	30.5	MARIES	1	0.6
12.5	PETTIS	3	1.7	30.5	NEW MADRID	1	0.6
17.0	BARRY	2	1.1	30.5	OZARK	1	0.6
17.0	LACLEDE	2	1.1	30.5	PHELPS	1	0.6
17.0	LAFAYETTE	2	1.1	30.5	POLK	1	0.6
17.0	LINN	2	1.1	30.5	PULASKI	1	0.6
17.0	NEWTON	2	1.1	30.5	RANDOLPH	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
30.5	ST. CLAIR	1	0.6	78.0	JOHNSON	0	0.0
30.5	TEXAS	1	0.6	78.0	KNOX	0	0.0
30.5	WARREN	1	0.6	78.0	LAWRENCE	0	0.0
30.5	WRIGHT	1	0.6	78.0	LEWIS	0	0.0
Third Quartile				78.0	LIVINGSTON	0	0.0
Fourth Quartile				78.0	MACON	0	0.0
78.0	ADAIR	0	0.0	78.0	MADISON	0	0.0
78.0	ANDREW	0	0.0	78.0	MARION	0	0.0
78.0	ATCHISON	0	0.0	78.0	MERCER	0	0.0
78.0	AUDRAIN	0	0.0	78.0	MILLER	0	0.0
78.0	BARTON	0	0.0	78.0	MISSISSIPPI	0	0.0
78.0	BATES	0	0.0	78.0	MONITEAU	0	0.0
78.0	BENTON	0	0.0	78.0	MONROE	0	0.0
78.0	BOLLINGER	0	0.0	78.0	MONTGOMERY	0	0.0
78.0	BUCHANAN	0	0.0	78.0	MORGAN	0	0.0
78.0	CALDWELL	0	0.0	78.0	NODAWAY	0	0.0
78.0	CALLAWAY	0	0.0	78.0	OREGON	0	0.0
78.0	CARTER	0	0.0	78.0	OSAGE	0	0.0
78.0	CEDAR	0	0.0	78.0	PEMISCOT	0	0.0
78.0	CHRISTIAN	0	0.0	78.0	PERRY	0	0.0
78.0	CLARK	0	0.0	78.0	PIKE	0	0.0
78.0	CLINTON	0	0.0	78.0	PUTNAM	0	0.0
78.0	COOPER	0	0.0	78.0	RALLS	0	0.0
78.0	CRAWFORD	0	0.0	78.0	RAY	0	0.0
78.0	DADE	0	0.0	78.0	RIPLEY	0	0.0
78.0	DAVISS	0	0.0	78.0	STE. GENEVIEVE	0	0.0
78.0	DE KALB	0	0.0	78.0	SALINE	0	0.0
78.0	DENT	0	0.0	78.0	SCHUYLER	0	0.0
78.0	DOUGLAS	0	0.0	78.0	SCOTLAND	0	0.0
78.0	DUNKLIN	0	0.0	78.0	SCOTT	0	0.0
78.0	GASCONADE	0	0.0	78.0	SHANNON	0	0.0
78.0	GENTRY	0	0.0	78.0	SHELBY	0	0.0
78.0	GRUNDY	0	0.0	78.0	STODDARD	0	0.0
78.0	HARRISON	0	0.0	78.0	STONE	0	0.0
78.0	HENRY	0	0.0	78.0	SULLIVAN	0	0.0
78.0	HICKORY	0	0.0	78.0	TANEY	0	0.0
78.0	HOLT	0	0.0	78.0	VERNON	0	0.0
78.0	HOWARD	0	0.0	78.0	WASHINGTON	0	0.0
78.0	HOWELL	0	0.0	78.0	WAYNE	0	0.0
78.0	IRON	0	0.0	78.0	WEBSTER	0	0.0
				78.0	WORTH	0	0.0

TABLE 3.0.15

4.0 AMBULANCE INVOLVEMENT

This section presents a series of data displays which identify ambulance involvement in Missouri's traffic crash activity. Ambulance traffic crashes are defined as any crash in which one or more ambulances were directly involved in the incident. Data displays also are provided which describe characteristics of the ambulance drivers involved in these traffic crashes.

2003 SUMMARY ANALYSIS

- In 2003, there were 160 traffic crashes involving one or more ambulances in the State of Missouri. One person was killed and 68 were injured in these crashes.
- In 29.4% of the traffic crashes involving ambulances, the ambulance was on an emergency run at the time of the incident.
- In 2003, one person was killed or injured in an ambulance related crash every 5.3 days in the State of Missouri.
- Of all 2003 crashes involving ambulances, the first harmful event in 69.4% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 10.0% of the cases, it involved a motor vehicle striking a parked vehicle, and in 7.5% of the cases a motor vehicle struck a fixed object.
- Of all 2003 crashes involving ambulances, 65.0% occurred in an urban area of the State and 35.0% occurred in a rural area.
- Of all ambulance drivers involved in 2003 traffic crashes, 72.9% were male and 27.1% were female. The average age of the ambulance driver was 33.0 years.

2003 AMBULANCE INVOLVED CRASHES

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹			AMBULANCE DRIVERS/PASSENGERS ²	
									KILLED	INJURED		KILLED	INJURED
AMBULANCE ON RUN	0	0.0	16	42.1	31	25.6	47	29.4	0	30		0	14
AMBULANCE NOT ON RUN	1	100.0	22	57.9	90	74.4	113	70.6	1	38		1	19
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0	1	68		1	33

¹This statistic indicates the total number of persons killed and injured in a crash where one or more ambulances were involved.

²This statistic indicates the number of ambulance drivers and passengers killed and injured.

TABLE 4.0.1

2002 and 2003 AMBULANCE INVOLVED CRASH ANALYSIS

	2002	2003	RATE OF CHANGE
FATAL	0	1	(+1)
PERSONAL INJURY	30	38	+ 26.7
PROPERTY DAMAGE	138	121	- 12.3
TOTAL	168	160	- 4.8

TABLE 4.0.2

2003 AMBULANCE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	2	5.3	10	8.3	12	7.5
BICYCLIST	0	0.0	1	2.6	1	0.8	2	1.3
FIXED OBJECT	0	0.0	4	10.5	8	6.6	12	7.5
OTHER OBJECT	0	0.0	0	0.0	3	2.5	3	1.9
PEDESTRIAN	0	0.0	1	2.6	0	0.0	1	0.6
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	0	0.0	29	76.3	82	67.8	111	69.4
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	0	0.0	16	13.2	16	10.0
NON-COLLISION OVERTURN	1	100.0	1	2.6	0	0.0	2	1.3
NON-COLLISION OTHER	0	0.0	0	0.0	1	0.8	1	0.6
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

TABLE 4.0.3

2003 AMBULANCE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	24	63.2	80	66.1	104	65.0
RURAL	1	100.0	14	36.8	41	33.9	56	35.0
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

TABLE 4.0.4

2003 AMBULANCE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	35	94.6	106	87.6	141	88.7
CURVE	1	100.0	2	5.4	15	12.4	18	11.3
UNKNOWN	0	-	1	-	0	-	1	-
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

TABLE 4.0.5

2003 AMBULANCE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	100.0	30	78.9	87	72.5	118	74.2
HILL	0	0.0	6	15.8	27	22.5	33	20.8
CREST	0	0.0	2	5.3	6	5.0	8	5.0
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

TABLE 4.0.6

2003 AMBULANCE INVOLVED CRASHES
ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	31	81.6	94	77.7	125	78.1
WET	0	0.0	6	15.8	21	17.4	27	16.9
SNOW	1	100.0	1	2.6	6	4.9	8	5.0
ICE	0	0.0	0	0.0	0	0.0	0	0.0
SLUSH	0	0.0	0	0.0	0	0.0	0	0.0
MUD	0	0.0	0	0.0	0	0.0	0	0.0
STANDING WATER	0	0.0	0	0.0	0	0.0	0	0.0
MOVING WATER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

TABLE 4.0.7

2003 AMBULANCE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	1	100.0	2	5.3	13	10.7	16	10.0
U.S. HIGHWAY	0	0.0	7	18.4	11	9.1	18	11.3
STATE NUMBERED	0	0.0	3	7.9	16	13.2	19	11.9
SINGLE STATE LETTERED	0	0.0	0	0.0	9	7.4	9	5.6
DOUBLE STATE LETTERED	0	0.0	1	2.6	2	1.7	3	1.9
OUTER ROAD	0	0.0	0	0.0	1	0.8	1	0.6
COUNTY ROAD	0	0.0	5	13.2	7	5.8	12	7.5
CITY STREET	0	0.0	20	52.6	58	47.9	78	48.8
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	4	3.3	4	2.5
TOTAL	1	100.0	38	100.0	121	100.0	160	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.8

2003 AMBULANCE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	6	7.5	6	5.8	1	100.0	2	14.3	7	17.1	10	17.9
U.S. HIGHWAY	0	0.0	1	4.2	4	5.0	5	4.8	0	0.0	6	42.9	7	17.1	13	23.2
STATE NUMBERED	0	0.0	1	4.2	8	10.0	9	8.7	0	0.0	2	14.3	8	19.5	10	17.9
SINGLE STATE LETTERED	0	0.0	0	0.0	1	1.3	1	1.0	0	0.0	0	0.0	8	19.5	8	14.3
DOUBLE STATE LETTERED	0	0.0	0	0.0	1	1.3	1	1.0	0	0.0	1	7.1	1	2.4	2	3.6
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	1	1.8
COUNTY ROAD	0	0.0	4	16.7	2	2.5	6	5.8	0	0.0	1	7.1	5	12.2	6	10.7
CITY STREET	0	0.0	18	75.0	57	71.3	75	72.1	0	0.0	2	14.3	1	2.4	3	5.4
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	1	1.3	1	1.0	0	0.0	0	0.0	3	7.3	3	5.4
TOTAL	0	0.0	24	100.0	80	100.0	104	100.0	1	100.0	14	100.0	41	100.0	56	100.0

¹ "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.9

**2003 AMBULANCE INVOLVED CRASHES
MONTH OF YEAR**

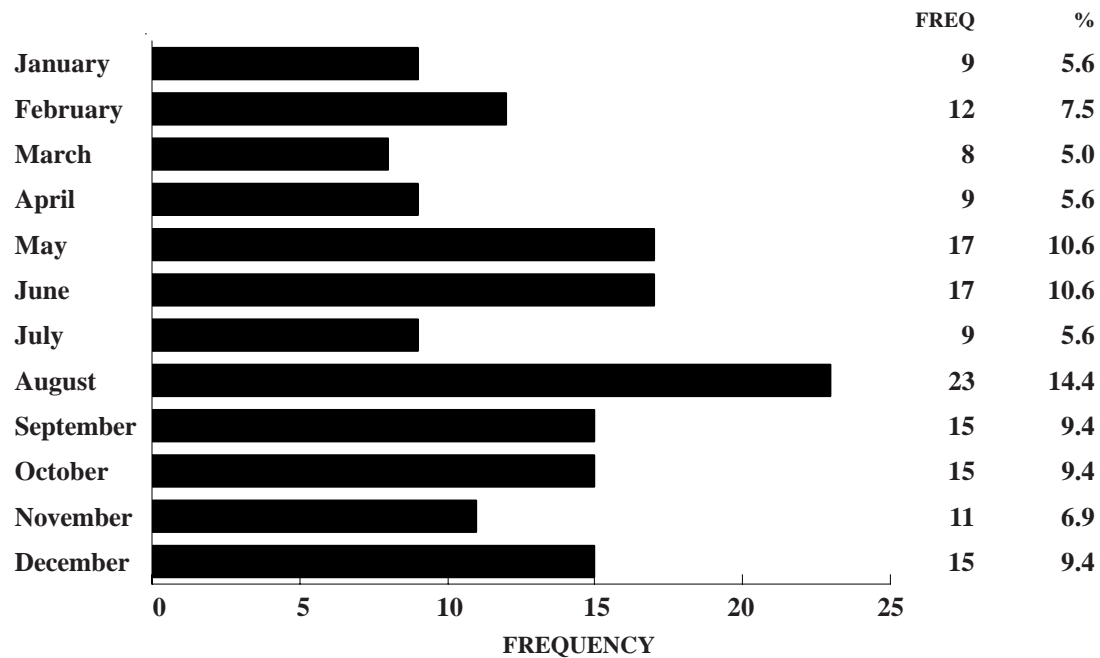


FIGURE 4.0.1

**2003 AMBULANCE INVOLVED CRASHES
DAY OF WEEK**

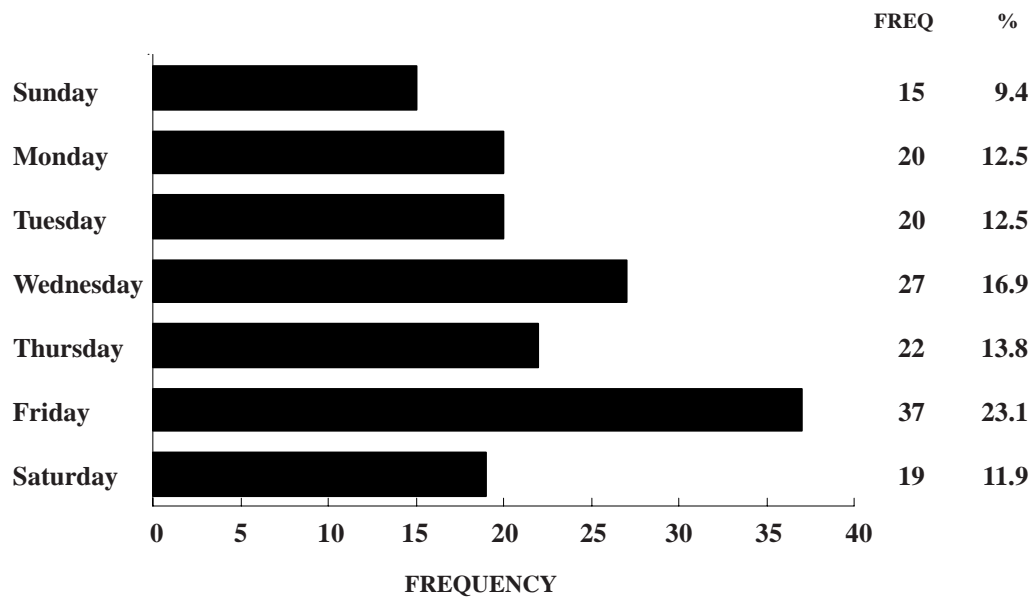


FIGURE 4.0.2

**2003 AMBULANCE INVOLVED CRASHES
HOUR OF DAY**

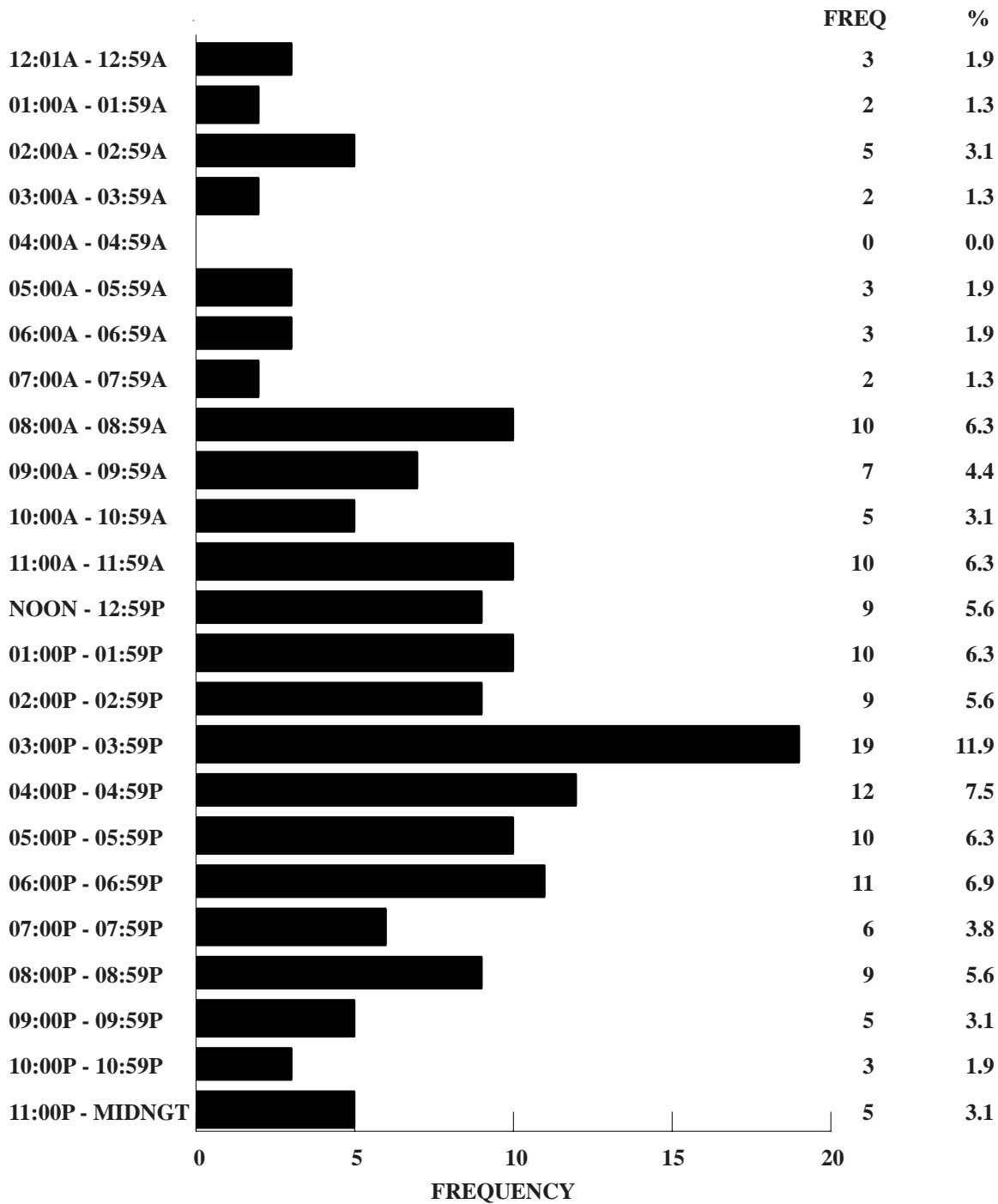


FIGURE 4.0.3

2003 MISSOURI AMBULANCE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY AMBULANCE CRASHES = 39				TOTAL AMBULANCE CRASHES = 160		
	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	2.6	0.0	2.6	1.9	0.6	2.5
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY STOPPED ON ROADWAY	0.0	2.6	2.6	0.0	0.6	0.6
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	12.8	2.6	15.4	3.1	5.6	8.7
IMPROPER PASSING	0.0	0.0	0.0	0.6	1.3	1.9
VIOLATION OF STOP SIGN	7.7	7.7	15.4	1.9	3.8	5.6
WRONG SIDE NOT PASSING	0.0	0.0	0.0	0.0	1.3	1.3
FOLLOWING TOO CLOSE	7.7	7.7	12.8	4.4	6.9	10.6
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	1.9	0.6	2.5
IMPROPER TURN	2.6	2.6	5.1	2.5	2.5	5.0
IMPROPER LANE USAGE / CHANGE	0.0	0.0	0.0	4.4	4.4	8.8
WRONG WAY ONE-WAY STREET	2.6	0.0	2.6	0.6	0.0	0.6
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.0	0.0	0.0
FAILED TO YIELD	2.6	23.1	25.6	3.1	16.9	20.0
DRINKING	2.6	0.0	2.6	0.6	0.6	1.2
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	2.6	2.6	5.1	1.3	1.3	2.5
INATTENTION	10.3	17.9	28.2	16.3	10.6	25.6

¹This table identifies the percentage of crashes involving one or more ambulances having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his ambulance as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 2003 Missouri ambulance crashes, it was found that an ambulance driver was speeding in 3.1% of the crashes. In 5.6% of the crashes another driver was speeding. In 8.7% of the crashes either an ambulance driver, another driver, or both drivers were speeding.

TABLE 4.0.10

AMBULANCES INVOLVED IN 2003 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	1	100.0	43	100.0	122	100.0	166	100.0
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	43	100.0	122	100.0	166	100.0

TABLE 4.0.11

DRIVERS OF AMBULANCES INVOLVED IN 2003 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	1	100.0	30	69.8	90	73.8	121	72.9
FEMALE	0	0.0	13	30.2	32	26.2	45	27.1
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	1	100.0	43	100.0	122	100.0	166	100.0

TABLE 4.0.12

DRIVERS OF AMBULANCES INVOLVED IN 2003 MISSOURI CRASHES

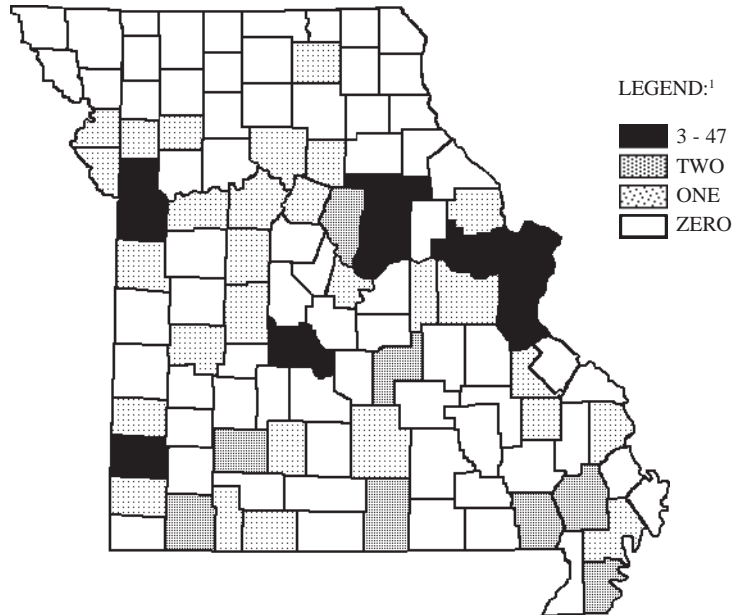
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	21.0	-	34.3	-	32.7	-	33.0	-
14 YEARS AND UNDER	0	0.0	1	2.3	0	0.0	1	0.6
15 - 20 YEARS	0	0.0	4	9.3	4	3.3	8	4.8
21 - 25 YEARS	1	100.0	5	11.6	33	27.1	39	23.5
26 - 30 YEARS	0	0.0	8	18.6	30	24.6	38	22.9
31 - 35 YEARS	0	0.0	10	23.3	20	16.4	30	18.1
36 - 40 YEARS	0	0.0	7	16.3	6	4.9	13	7.8
41 - 45 YEARS	0	0.0	1	2.3	9	7.4	10	6.0
46 - 50 YEARS	0	0.0	2	4.7	12	9.8	14	8.4
51 - 55 YEARS	0	0.0	2	4.7	5	4.1	7	4.2
56 - 60 YEARS	0	0.0	1	2.3	1	0.8	2	1.2
61 - 65 YEARS	0	0.0	1	2.3	1	0.8	2	1.2
66 YEARS AND OVER	0	0.0	1	2.3	1	0.8	2	1.2
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	1	100.0	43	100.0	122	100.0	166	100.0

TABLE 4.0.13

2003 AMBULANCE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹ LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	47	29.4	15.5	STODDARD	2	1.3
2.0	ST. LOUIS	21	13.1	Second Quartile			
3.0	JACKSON	17	10.6	Third Quartile			
4.0	JASPER	7	4.4	33.5	ADAIR	1	0.6
5.0	CAMDEN	5	3.1	33.5	BARTON	1	0.6
6.0	CLAY	4	2.5	33.5	BENTON	1	0.6
9.0	AUDRAIN	3	1.9	33.5	BUCHANAN	1	0.6
9.0	CALLAWAY	3	1.9	33.5	CALDWELL	1	0.6
9.0	JEFFERSON	3	1.9	33.5	CAPE GIRARDEAU	1	0.6
9.0	ST. CHARLES	3	1.9	33.5	CASS	1	0.6
9.0	WARREN	3	1.9	33.5	CHARITON	1	0.6
First Quartile				33.5	CLINTON	1	0.6
Second Quartile				33.5	COLE	1	0.6
15.5	BARRY	2	1.3	33.5	FRANKLIN	1	0.6
15.5	BOONE	2	1.3	33.5	GASCONADE	1	0.6
15.5	BUTLER	2	1.3	33.5	HOWARD	1	0.6
15.5	GREENE	2	1.3	33.5	LAFAYETTE	1	0.6
15.5	HOWELL	2	1.3	33.5	LINCOLN	1	0.6
15.5	PEMISCOT	2	1.3	33.5	MADISON	1	0.6
15.5	PHELPS	2	1.3	33.5	NEW MADRID	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
33.5	NEWTON	1	0.6	81.5	LACLEDE	0	0.0
33.5	PETTIS	1	0.6	81.5	LAWRENCE	0	0.0
33.5	PLATTE	1	0.6	81.5	LEWIS	0	0.0
33.5	RANDOLPH	1	0.6	81.5	LINN	0	0.0
33.5	ST. CLAIR	1	0.6	81.5	LIVINGSTON	0	0.0
33.5	ST. FRANCOIS	1	0.6	81.5	MC DONALD	0	0.0
33.5	SALINE	1	0.6	81.5	MACON	0	0.0
33.5	STONE	1	0.6	81.5	MARIES	0	0.0
33.5	TANEY	1	0.6	81.5	MARION	0	0.0
33.5	TEXAS	1	0.6	81.5	MERCER	0	0.0
33.5	WEBSTER	1	0.6	81.5	MILLER	0	0.0
Third Quartile				81.5	MISSISSIPPI	0	0.0
				81.5	MONITEAU	0	0.0
Fourth Quartile				81.5	MONROE	0	0.0
81.5	ANDREW	0	0.0	81.5	MONTGOMERY	0	0.0
81.5	ATCHISON	0	0.0	81.5	MORGAN	0	0.0
81.5	BATES	0	0.0	81.5	NODAWAY	0	0.0
81.5	BOLLINGER	0	0.0	81.5	OREGON	0	0.0
81.5	CARROLL	0	0.0	81.5	OSAGE	0	0.0
81.5	CARTER	0	0.0	81.5	OZARK	0	0.0
81.5	CEDAR	0	0.0	81.5	PERRY	0	0.0
81.5	CHRISTIAN	0	0.0	81.5	PIKE	0	0.0
81.5	CLARK	0	0.0	81.5	POLK	0	0.0
81.5	COOPER	0	0.0	81.5	PULASKI	0	0.0
81.5	CRAWFORD	0	0.0	81.5	PUTNAM	0	0.0
81.5	DADE	0	0.0	81.5	RALLS	0	0.0
81.5	DALLAS	0	0.0	81.5	RAY	0	0.0
81.5	DAVIESS	0	0.0	81.5	REYNOLDS	0	0.0
81.5	DE KALB	0	0.0	81.5	RIPLEY	0	0.0
81.5	DENT	0	0.0	81.5	STE. GENEVIEVE	0	0.0
81.5	DOUGLAS	0	0.0	81.5	SCHUYLER	0	0.0
81.5	DUNKLIN	0	0.0	81.5	SCOTLAND	0	0.0
81.5	GENTRY	0	0.0	81.5	SCOTT	0	0.0
81.5	GRUNDY	0	0.0	81.5	SHANNON	0	0.0
81.5	HARRISON	0	0.0	81.5	SHELBY	0	0.0
81.5	HENRY	0	0.0	81.5	SULLIVAN	0	0.0
81.5	HICKORY	0	0.0	81.5	VERNON	0	0.0
81.5	HOLT	0	0.0	81.5	WASHINGTON	0	0.0
81.5	IRON	0	0.0	81.5	WAYNE	0	0.0
81.5	JOHNSON	0	0.0	81.5	WORTH	0	0.0
81.5	KNOX	0	0.0	81.5	WRIGHT	0	0.0

TABLE 4.0.14

GLOSSARY

AMBULANCE INVOLVED TRAFFIC CRASH: Any crash in which one or more ambulances were directly involved in the incident.

EMERGENCY SERVICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more emergency service vehicles (i.e., police, fire, ambulance, and 'other' emergency service vehicle) were directly involved in the incident.

FATAL TRAFFIC CRASH: A crash in which one or more persons were killed as a result of the crash and their death(s) occurred within 30 days of the incident.

FIRE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more fire vehicles were directly involved in the incident.

PERSONAL INJURY TRAFFIC CRASH: Any crash in which no person was killed but one or more persons were injured in the incident.

POLICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more police vehicles were directly involved in the incident.

PROPERTY DAMAGE TRAFFIC CRASH: Any crash in which no person was killed or injured but property was damaged in the incident.

QUARTILE: The value that marks the boundary between two consecutive intervals in a frequency distribution of four intervals with each containing one quarter of the total population.

RATE OF CHANGE: The formula is:

$$\frac{\text{Value in Current Period} - \text{Value in Base Period}}{\text{Value in Base Period}} \times 100$$

RURAL AREA: Any community of less than 5,000 population or an unincorporated area of the State.

URBAN AREA: Any community in the State having a population of 5,000 or more.